

WE CLAIM:

1. A network management connectivity verification framework comprising:
 - a. a connectivity verification server performing unattended connectivity verification jobs; and
 - 5 b. a connectivity verification application for defining connectivity verification jobs, configuring the connectivity verification server accordingly, and displaying configuration verification results.
2. A connectivity verification framework claimed in claim 1, wherein the connectivity verification jobs are scheduled and the connectivity verification server performs scheduled connectivity verification.
- 10 3. A connectivity verification framework claimed in claim 1, wherein the connectivity verification application further providing a display of connectivity verification results.
4. A connectivity verification framework claimed in claim 1, wherein the results of each connectivity verification job may be compared against a connectivity profile, a deviation from the connectivity profile being used to raise an alarm.
- 15 5. A connectivity verification framework claimed in claim 3, wherein the connectivity verification results, including alarm information, are further used to generate a network map displaying selected connectivity verification results.
- 20 6. A method of creating a network connectivity verification test, comprising steps of:
 - a. defining a connectivity verification job;
 - b. configuring a connectivity verification server to perform the connectivity verification job; and
 - c. displaying connectivity verification results.
- 25 7. The method of creating a network connectivity verification test claimed in claim 6, wherein defining the connectivity verification job further comprises steps of:

a. selecting via an NMS user interface, a pair of source and destination IP objects between which connectivity is to be verified; and

b. specifying a connectivity verification schedule;

5 8. The method of creating a network connectivity verification test claimed in claim 6, wherein defining the connectivity verification job further comprises a step of specifying connectivity verification thresholds to be applied against connectivity verification results.

10 9. The method of creating a network connectivity verification test claimed in claim 8, wherein specifying connectivity thresholds further comprises specifying a threshold for a round trip delay, jitter, and packet loss.

10. The method of creating a network connectivity verification test claimed in claim 7, wherein a selected IP object include one of a router, IP interface, and IP address.

15 11. The method of creating a network connectivity verification test claimed in claim 7, wherein the pair of IP objects is selected selecting one of an IP link, an LSP, and a VPN.

20 12. The method of creating a network connectivity verification test claimed in claim 6, wherein defining the connectivity verification job further comprises a step of: configuring a connectivity verification parameter including one of a number of ping commands to issue, a ping packet size, ping data fill pattern, a time to wait for response, and a type of service.

25 13. The method of creating a network connectivity verification test claimed in claim 6, wherein defining the connectivity verification job further comprises a step of: configuring a connectivity verification parameter including one of a number of traceroute commands to issue, a traceroute packet size, traceroute packet data fill pattern, a time to wait for response, and a type of service.

14. A method of performing a network connectivity verification in a network management context comprising steps of:

- a. performing scheduled connectivity verification;
- b. comparing a connectivity verification result with a threshold; and
- c. raising an alarm if the connectivity verification result has reached the threshold.

- 5 15. The method of performing a network connectivity verification claimed in claim 14, further comprising a step of: storing connectivity verification job on computer readable medium for subsequent access and execution.
- 10 16. The method of performing a network connectivity verification claimed in claim 14, further comprising a step of: highlighting at least one IP object based on one of a connectivity verification job and a connectivity verification result.
17. The method of performing a network connectivity verification claimed in claim 16, wherein a highlighted object is one of an OSI Layer 2 and OSI Layer 3 object.
- 15 18. The method of performing a network connectivity verification claimed in claim 14, wherein performing scheduled connectivity verification the method further comprising a step of: periodically executing connectivity verification tests.
19. The method of performing a network connectivity verification claimed in claim 14, wherein performing scheduled connectivity verification the method further comprising a step of: issuing a one of a ping command and traceroute command.
- 20 20. The method of performing a network connectivity verification claimed in claim 14, further comprising a step of: storing historical connectivity verification results on computer readable medium for subsequent access.